
SKY BOX ENGINEERING



to fly out of the box



SPIN-OFF COMPANY OF PISA UNIVERSITY

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University of Pisa

Presentation of the company

Company profile

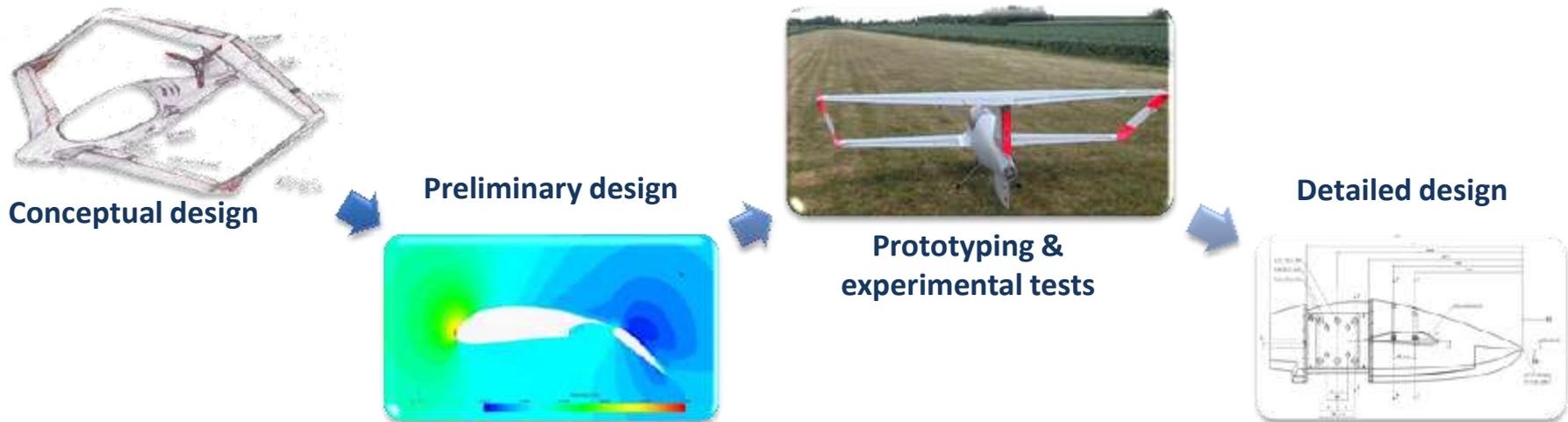
2009. Foundation

2010. Ranking 3th at “Premio Vespucci per l’innovazione”

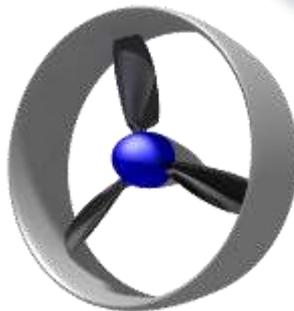
2011. Partner of the *IDINTOS* project together with the University of Pisa

2012. Founder of “Zefiro Ricerca & innovazione”

2012. SkyBox registered as *Spin-off* company



Core competencies



- CAD/CAE design
- Aerodynamic analysis
- Flight Mechanics analysis
- Structure design
- Non conventional aircraft
- Photovoltaic systems and wind turbine
- Propeller performance
- UAV design

Current projects

IDrovolante INnovativo TOScano

Project granted by Tuscany region, that has the objective to build the prototype of a new ultralight amphibious.

Partnership between public entities and private companies.

- «PrandtlPlane» configuration
- ULM/VLA category
- 2 seats, side-by-side
- Amphibian
- 100 hp thermal engine
- Ducted propellers
- Planing hull



IDINTOS: introduction

Advantages

- Aerodynamic based on the “Best Wing System” theory
- Safety is increased (“smart” stall behaviour)
- Structural improvements
- Cool design

Drawbacks:

- More complicated design
- Lack of experimental tests
- Some construction problems

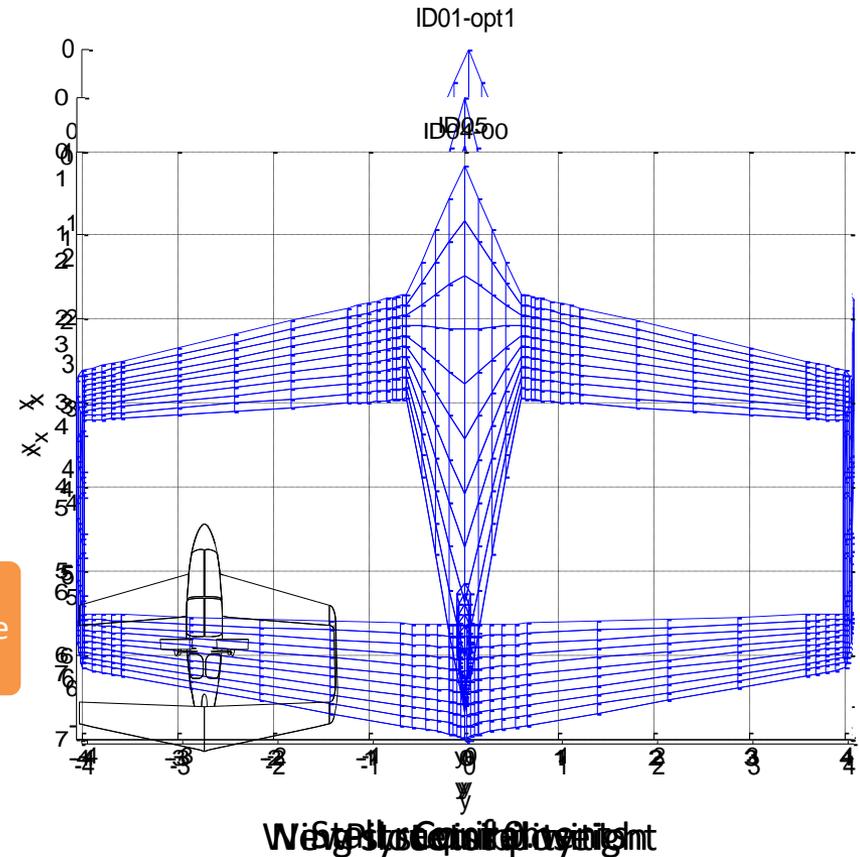
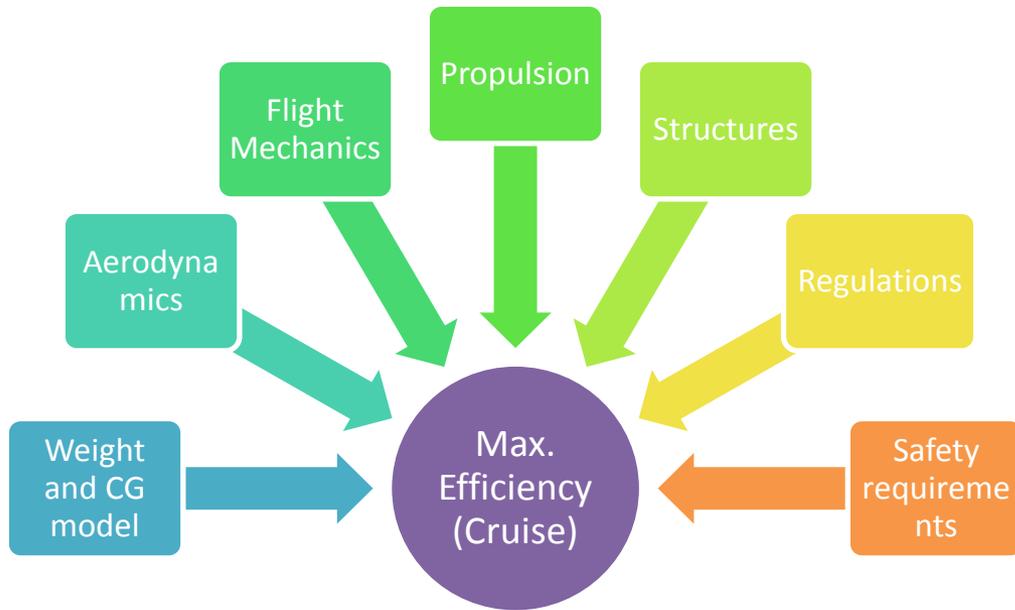


IDINTOS: Gantt chart

	Month																								EXTRA						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
	mar-11	apr-11	mag-11	giu-11	lug-11	ago-11	set-11	ott-11	nov-11	dic-11	gen-12	feb-12	mar-12	apr-12	mag-12	giu-12	lug-12	ago-12	set-12	ott-12	nov-12	dic-12	gen-13	feb-13	mar-13	apr-13	mag-13	giu-13	lug-13	ago-13	
WP 1: Conceptual and preliminary design																	M1														
WP 2: Wind tunnel tests																															
WP 3: Towing tank tests																	M2														
WP 4: Test on a flying scaled model																															
WP 5: Detailed design																			M3												
WP 6: Cabin design and HMI																	M4														
WP 7: Prototype construction																															
WP 8: Design of the all electric version																	M5														
WP 11: Dissemination																															

IDINTOS: preliminary design

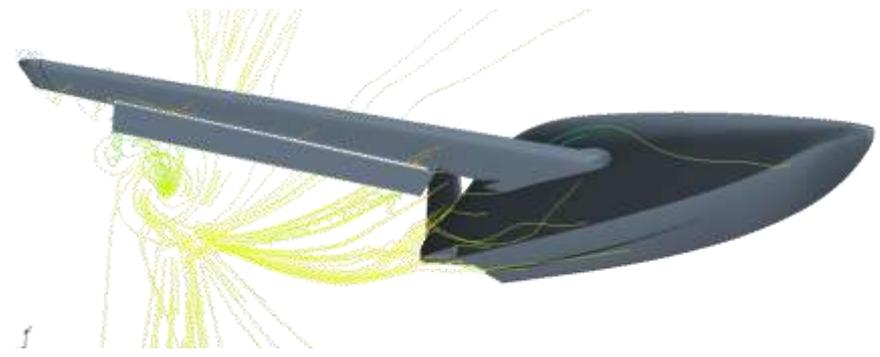
Optimization of the wing configuration



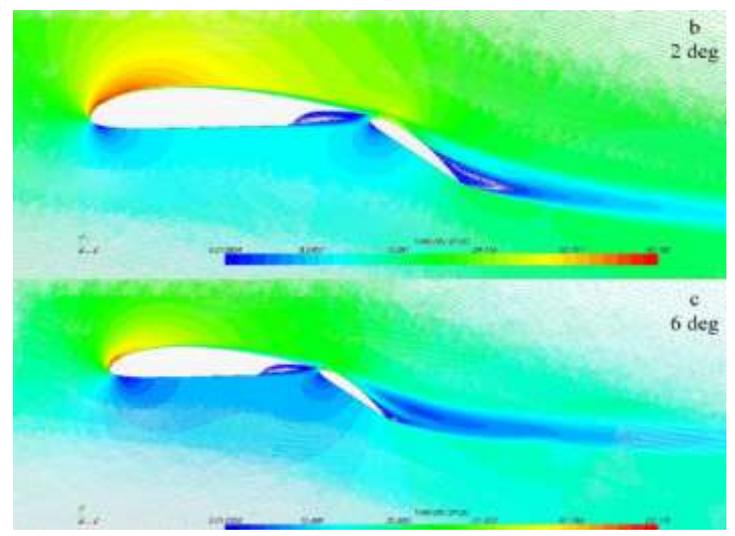
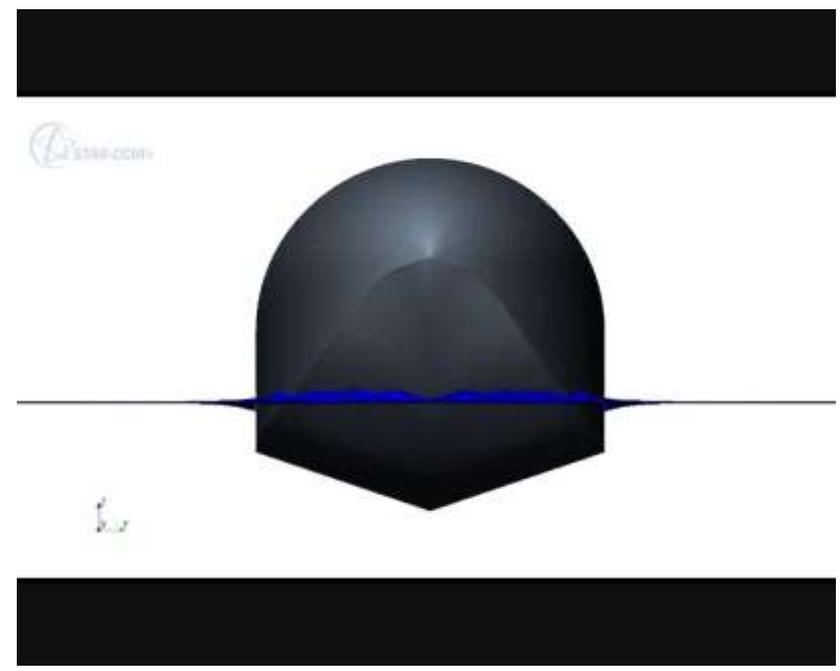
IDINTOS: preliminary design

CFD analysis

Low speed surfaces

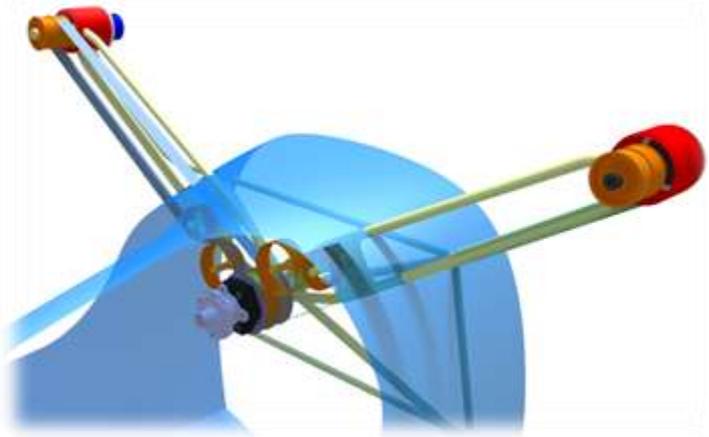


Take-off run



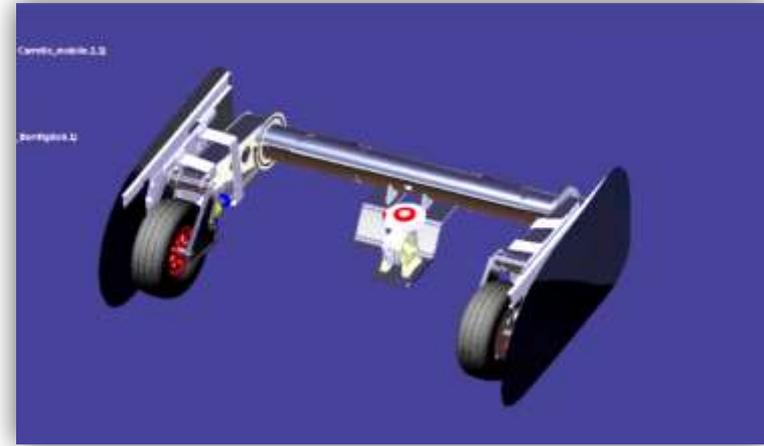
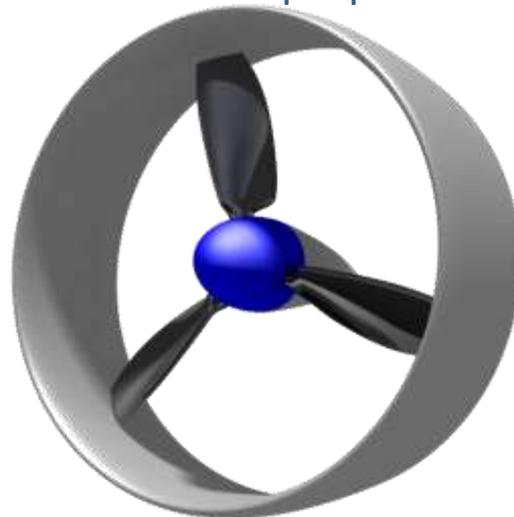
IDINTOS: preliminary design

Design of main systems



Power transmission

Ducted prop



Main landing gear

IDINTOS: experimental tests

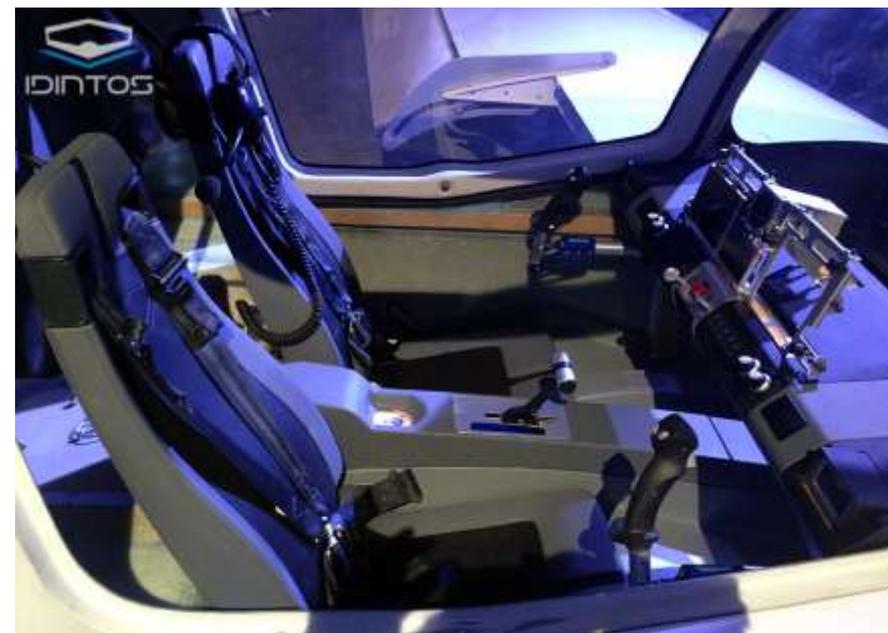
Wind tunnel tests



Towing tank tests



IDINTOS: full scale prototype



ZEFIRO: a “technologic demonstrator”

Idea: the creation of a flight test centre based in the airport of Capannori (Lu).
Several projects concerning the application of UAV technologies for civil purposes.



Progetto

UNMANNED SYSTEMS DEVELOPMENT NETWORK

- Attività sperimentali di volo presso aeroporto di Capannori Lucca
- Progettazione e realizzazione di UAV ad ala fissa e rotante per applicazioni civili e industriali
- Servizi di aerofotografia, aerofotogrammetria e telerilevamento
- Corsi di formazione per gestione e pilotaggio di UAV

Questions?

SkyBox Engineering S.r.l.

Spin-Off Università di Pisa

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